We claim:

1.   A computer-implemented method of managing listing information, relating to at least one property, for a real estate database, the method comprising:

at said property, entering property specific information into a portable computing device;

communicating said the property specific information from said portable computing device to a server computer system; and

adding, on said computer system, said property specific information as new records in a table having a plurality of records, each of said plurality of records including an address field and a descriptor; and controlling the entry of said new records in said table so that said address fields for all of said plurality of records define a semantic hierarchy among said plurality of records in said table;

wherein:

said address field comprises a hierarchically ordered set of identifiers;

said controlling of said entry of said new records includes, for each said property:

providing a highest level record in said table,

providing a plurality of records in said table semantically below said highest level record, each having said address field and said descriptor;

for each given record of said plurality of records other than ones having said highest level, the semantic meaning of said descriptor is based on a set of records in said table semantically above said given record; and

a particular record is a member of said set of records semantically above said given record when all of said identifiers of said particular record appear identically in the same positions in said address field of said given record but said given record has at least one identifier not appearing identically in the same position in said address field of said particular record.

2.   The computer-implemented method of managing listing information as set forth in claim 1, wherein:

said address field comprises a hierarchically ordered set of identifiers; and

said controlling of said entry of said new records includes, for each of said entities:

providing a highest level record in said table associated with and descriptive of a property attribute;

providing a second highest level record in said table containing a plurality of attributes associated with and depending from said property attribute of said highest level record, said attributes being descriptive of a structure; and

providing a third highest level record in said table containing a plurality of attributes associated with and depending from said structure attribute of said second highest level record, said attributes being descriptive of a room attribute.

3. The computer-implemented method of managing listing information as set forth in claim 2, wherein also providing a fourth highest level record in said table containing at least one record having a field for entry of text descriptive information associated with and depending from said room attribute of said third highest level record.

4. The computer-implemented method of managing listing information as set forth in claim 1, 2 or 3, wherein further comprising the step of providing a user interface on said personal computing device having a field for displaying the successive levels of priority in hierarchical order, with which the current level is hierarchically associated.

5. The computer-implemented method of managing listing information as set forth in claim 4, wherein all records are stored in the same table.

6. The computer-implemented method of managing listing information as set forth in claim 5, wherein said portable computing device is a handheld computer.

7. The computer-implemented method of managing listing information as set forth in claim. 6, wherein said method further comprises providing an extensible markup language

(XML) script, executable on said handheld computer, said XML script including a set of definitions being further defined and associated in a hierarchical addressing scheme.

8.   The computer-implemented method of managing listing information as set forth in claim 7, wherein said table of hierarchically addressed fields being extensible without limitation to include additional said address fields, said address fields having an association with and depending logically from at least one of said logically higher levels of record.

9.   The computer-implemented method of managing listing information as set forth in claim 8, wherein also providing means for capturing digital video images describing said next higher level record.

10.   The computer-implemented method of managing listing information as set forth in claim 9, wherein said means for capturing digital video images comprises a digital camera coupled with a handheld computer having means for storing and addressing said video image.

11.   The computer-implemented method of managing listing information as set forth in claim 10, wherein said digital camera being integrally mounted on said handheld personal digital computer.

12.   The computer-implemented method of managing listing information as set forth in claim 11, wherein also providing means for electronically measuring and recording dimensions associated with an attribute of one of said records in a said next higher level record.

13.   The computer-implemented method of managing listing information as set forth in claim 12, wherein said means for electronically measuring and recording dimensions comprises an infrared (IR) measuring device coupled with a handheld personal digital computer for storing and addressing said dimensions.

14.   The computer-implemented method of managing listing information as set forth in claim 13, wherein said IR measuring device being integrally mounted on said handheld personal digital computer.

15.   The computer-implemented method of managing listing information as set forth in claim 14, wherein said handheld personal digital computer operable by means of a computer application responsive to voice commands, said handheld computer having the ability to interpret voice signals for insertion of data related to said real estate.

16.   The computer-implemented method of managing listing information as set forth in claim 15, wherein combining digital camera, IR and voice recognition in table for creation of virtual tour, comprising visual, audio and text descriptions within a said listing, said descriptions being displayable on a handheld computer.

17.   A computer-implemented method of cross referencing a relational database with a hierarchical database comprising the steps of:

creating a definitional document, said document containing a data dictionary assigning numeric address information consistent with the subject matter of the database;

loading a definitional document into a standard database format;

accessing data from the definitional document for a programming language; and

writing said data to a database table consistent with the definitions set forth in said definitional document.

18.   The computer-implemented method of cross referencing a relational database with a hierarchical database as set forth in claim 17, wherein said definitional document comprises a set of real estate descriptive definitions ordered hierarchically to define a plurality of records in at least three levels of priority, wherein a highest level record sets forth property descriptive information, a second highest level record is associated with and depends logically from at least one of said highest level records, and a third highest level record is associated with and depends logically from at least one of said second highest level records.

19.   The computer-implemented method of cross referencing a relational database with a hierarchical database as set forth in claim 18, wherein also comprising records in N additional hierarchical levels of priority, wherein N representing a positive integer, each said Nth level of priority associated with and depending logically from at least one of said (N-1)th level records.

20.   The computer-implemented method of cross referencing a relational database with a hierarchical database as set forth in claim 17, wherein at least one of said records includes features associated with a next higher level record.

21.   The computer-implemented method of cross referencing a relational database with a hierarchical database as set forth in claim 18, wherein at least one of said records includes features associated with a next higher level record.

22.   The computer-implemented method of cross referencing a relational database with a hierarchical database as set forth in claim 19, wherein at least one of said records includes features associated with a next higher level record.

23.   A database management system characterized in that the entire database is in one table, and the table has sets of records relating to each entity, and the records have an address field made up of a hierarchically ordered set of identifiers.

24.   A computer implemented method for creating, storing and managing real estate listing data records in a hierarchical database comprising the steps of:

providing at least one portable handheld computer device having a computer-readable interactive program installed thereon and executable by an operating system associated with said handheld computer device;

operating by at least one user said interactive program to create at least one record associated with one or more properties, said at least one record including a hierarchically arranged plurality of descriptors for describing one or more real estate entities;

providing a communications link between said handheld computer device and an intermediate computer storage device for downloading the records for storage on the intermediate computer storage device;

. providing a computer network connecting said intermediate computer storage device to at least one central file server;

transferring said downloaded records from said intermediate computer storage device to said at least one central file server;

incorporating a plurality of said records into a cumulative, hierarchically organized file system; and

accessing said file system via said computer network according to a predefined set of user security codes for retrieval of at least a portion of said listing data sets for use in compiling and disseminating said listing data records in a plurality of formats adapted for marketing real estate entities.

25.   A computer-implemented method for creating, storing and managing real estate listing data in a hierarchical database comprising the steps of:

providing at least one portable handheld computer device having a computer-readable interactive program installed thereon and executable with an operating system associated with said handheld computer device,

said interactive program having a menu-driven format, with a plurality of main menu selections displayed, and

a first said menu selection being to enter a new listing, a second said menu selection being to open an existing listing, and a third said menu selection being to delete a listing;

displaying a prompt to identify a new listing responsive to user's selection to enter a new listing and, displaying a plurality of first level categories from which the user may select for entering into a listing data set;

displaying a plurality of second level categories if one of said first level categories is selected, and if an item is selected from second level categories,

displaying at least one of third level categories to associate with the second level category;

displaying at least one subcategory to associate with the each preceding level category up to a fifth level category;

optionally repeating the selection steps as desired to collect a set of selections that comprise a substantially complete set of descriptors of an associated property listing; and

if the user selects open listing, the first level categories are displayed again, such that data associated with the listing already in the database can be supplemented or modified as the steps of a new listing are repeated;

if the user selects delete listing, displaying a complete picklist of listing records all the first level categories are displayed again, such that records may be selected for deletion;

at least one user operating said interactive program to create at least one set of said listing data associated with one or more properties, said at least one set of listing data including a hierarchically arranged plurality of descriptors for describing one or more real estate entities;

providing a communications link between said handheld computer device and an intermediate computer storage device for downloading the sets of data for storage on the intermediate computer storage device;

providing a computer network connecting said intermediate computer storage device to at least one central file server;

transferring said downloaded sets of listing data from said intermediate computer storage device to said at least one central file server;

incorporating a plurality of said sets of listing data into a cumulative, hierarchically organized file system; and

accessing said file system via said computer network according to a predefined set of user security codes for retrieval of at least a portion of said listing data sets for use in

compiling and disseminating listing data records in a plurality of formats adapted for marketing real estate entities.

26. The computer-implemented method as set forth in claim 25, wherein said computer network is the Internet and is accessed using a web browser having a user interface including navigation elements for selection of items for inclusion in a set of listing data.

27. The computer-implemented method as set forth in claim 26, wherein also providing a middleware program adapted to translate data from the central database to user programs written for access to a second database.

28. A computer software application for creating data records associated with one or more real estate listings comprising:

an interactive program having a menu-driven format, with a plurality of main menu selections displayed, a first said menu selection being to enter a new listing, a second said menu selection being to open an existing listing, and a third said menu selection being to delete a listing;

displaying a prompt to identify a new listing responsive to user's selection to enter a new listing and, displaying a plurality of first level categories from which the user may select for entering into a record;

a plurality of second level categories if one of said first level categories is selected, and if an item is selected from second level categories,

at least one third level category to associate with one of the second level categories;

at least one subcategory to associate with the each higher level category up to a fifth level category;

each of said categories at every level being semantically associated with the next higher level;

means for repeating the selection steps as desired to collect a set of selections that comprise a substantially complete set of descriptors of an associated property listing;

means for storing said one or more records locally;

means to edit any of said stored records;

means to delete one or more of said stored records;

said at least one record including a hierarchically arranged plurality of descriptors for describing one or more real estate entities; and

a communications link for transmitting the records for storage in a central database.

29. The computer software application as set forth in claim 28, wherein said program is executable on a portable handheld computer device means is a HotSync® conduit storage means is a read only memory device capable of storing up to 32 MB of data.

30. The computer software application as set forth in claim 29, wherein said program being written in extensible markup language (XML).

31. The computer software application as set forth in claim 30, wherein said computer software application is an Internet-based application accessible by said users via the Internet, said users having at least one assigned security access code for verifying said user authorization.

32. A computer-implemented data management method for managing information relating to entities, comprising, providing on a computer system, at least one table for a plurality of records, each of said plurality of records having an address field and a descriptor; and controlling the entry of new records in said table so that said address fields for all of said plurality of records define a semantic hierarchy among said plurality of records in said table.

33. The data management method as set forth in claim 32, wherein:

said address field comprises a hierarchically ordered set of identifiers;

said controlling of said entry of said new records includes, for each of said entities:

> providing a highest level record in said table, and

> providing a plurality of records in said table semantically below said highest

level record, each having said address field and said descriptor;

for each given record of said plurality of records other than the records having said highest level, the semantic meaning of said descriptor is based on a set of records in said table semantically above said given record; and

a particular record is a member of said set of records semantically above said given record when all of said identifiers of said particular record appear identically in the same positions in said address field of said given record but said given record has at least one identifier not appearing identically in the same position in said address field of said particular record.

34.   The data management method as set forth in claim 33, wherein one of said records further includes feature information

35.   The data management method as set forth in claim 33, further comprising a step of providing a user interface for use with said computer system, said user interface comprising:

a selection element responsive to user inputs to select one of a plurality of predetermined selectable values;

a navigation element responsive to user inputs to manipulate said selection element to display ones of said plurality of predetermined selectable values, and to indicate a selection of one of said predetermined selectable values; and

a designation element responsive to user inputs to store in said table a new record having said descriptor based on said selection of said one of said predetermined selectable values.

36.   The data management method as set forth in claim 35, wherein said user interface further comprises a hierarchical orientation element showing descriptor information for said set of records in said table semantically above said new record.

37.   The data management method as set forth in claim 33, wherein all of said plurality of records are stored in the same table.

38. The data management method as set forth in claim 33, wherein all of said plurality of records are stored in only a single table.

39. A computer system for implementing a data management method of managing information relating to entities, comprising:

a processor; and

a memory under control of said processor, with computer instructions for causing said processor to perform the steps of:

providing, on said computer system, at least one table for a plurality of records, each of said plurality of records having an address field and a descriptor; and

controlling the entry of new records in said table so that said address fields for all of said plurality of records define a semantic hierarchy among said plurality of records in said table.

40. The computer system for implementing the data management method as set forth in claim 39, wherein:

said address field comprises a hierarchically ordered set of identifiers; and

said controlling of said entry of said new records includes, for each of said entities:

providing a highest level record in said table, and

providing a plurality of records in said table semantically below said highest level record, each having said address field and said descriptor:

for each given record of said plurality of records, other than the records having said highest level, the semantic meaning of said descriptor is based on a set of records in said table semantically above said given record; and

a particular record is a member of said set of record semantically above said given record when all of said identifiers of said particular record appear identically in the same positions in said address field of said given record but said given record has at least one identifier not appearing identically in the same position in said address field of said particular record.

41. The computer system for implementing the data management method as set forth in claim 40, wherein one of said record further includes feature information.

42. The computer system for implementing the data management method as set forth in claim 40, said steps further comprising a step of providing a user interface for use with said computer system, said user interface comprising:

a selection element responsive to user inputs to select one of a plurality of predetermined selectable values;

a navigation element responsive to user inputs to manipulate said selection element to display ones of said plurality of predetermined selectable values and to indicate a selection of one of said predetermined selectable values; and

a designation element responsive to user inputs to store in said table a new record having said descriptor based on said selection of said one of said predetermined selectable values.

43. The computer system for implementing the data management method as set forth in claim 42, wherein said user interface further comprises a hierarchical orientation element showing descriptor information for said set of records in said table semantically above said new record.

44. The computer system for implementing the data management method as set forth in claim 40, wherein all of said plurality of records are stored in the same table.

45. The computer system for implementing the data management method as set forth in claim 40, wherein all of said plurality of records are stored in only a single table.

46. A computer program product for enabling a computer system to implement a data management method of managing information relating to entities, comprising:

a computer readable medium, and

computer instructions, on said computer readable medium, adapted to cause a computer to perform the steps of:

provding, on said computer system, at least one table for a plurality of records, each of said plurality of records having an address field and a descriptor; and

controlling the entry of new records in said table so that said address fields for all of said plurality of records define a semantic hierarchy among said plurality of records in said table.

47.   The computer program product as set forth in claim 46, wherein:

said address field comprises a hierarchically ordered set of identifiers;

said controlling of said entry of said new records includes, for each of said entries:

providing a highest level record in said table, and

providing a plurality of records in said table semantically below said highest level record, each having said address field and said descriptor;

for each given record of said plurality of records other than the records having said highest level, the semantic meaning of said descriptor is based on a set of records in said table semantically above said given record; and

a particular record is a member of said set of records semantically above said given record when all of said identifiers of said particular record appear identically in the same positions in said address field of said given record but said given record has at least one identifier not appearing identically in the same position in said address field of said particular record.

48.   The computer program product as set forth in claim 47, wherein one of said records further includes feature information.

49.   The computer program product as set forth in claim 47, said steps further comprising a step of providing a user interface for use with said computer system, said user interface comprising:

a selection element responsive to user inputs to select one of a plurality of predetermined selectable values;

a navigation element responsive to user inputs to manipulate said selection element to display ones of said plurality of predetermined selectable values, and to indicate a selection of one of said predetermined selectable values; and

a designation element responsive to user inputs to store in said table a new record having said descriptor based on said selection of said one of said predetermined selectable values.

50. The computer program product as set forth in claim 49, wherein said user interface further comprises a hierarchical orientation element showing descriptor information for said set of records in said table semantically above said new record.

51. The computer program product as set forth in claim 47, wherein all of said plurality of records are stored in the same table.

52. The computer program product as set forth in claim 47, wherein all of said plurality of records are stored in only a single table.

53. A computer-implemented method of obtaining listing information, relating to at least one property, for a real-estate database, the method comprising:

at said property, entering property specific information into a portable computing device;

communicating said the property specific information from said portable computing device to a server computer system;

adding, on said computer system, said property specific information as new records in a table having a plurality of records, each of said plurality of records including an address field and a descriptor; and controlling the entry of said new records in said table so that said address fields for all of said plurality of records define a semantic hierarchy among said plurality of records in said table;

wherein:

said address field comprises a hierarchically ordered set of identifiers;

said controlling of said entry of said new records includes, for each said property:

providing a highest level record in said table, and

providing a plurality of records in aid table semantically below said highest level record, each having said address field and said descriptor;

for each given record other than ones of said plurality of records having said highest level, the semantic meaning of said descriptor is based on a set of records in said table semantically above said given record; and

a particular record is a member of said set of records semantically above said given record when all of said identifiers of said particular record appear identically in the same positions in said address field of said given record but said given record has at least one identifier not appearing identically in the same position in said address field of said particular record.